AMENDMENTS TO THE CLAIMS:

1. (Currently Amended) A method for providing RAID storage, comprising:

determining an enclosure, from among a plurality of enclosures, that is respectively associated with each of a plurality of storage devices, with at least some of the enclosures containing more than one of the storage devices; and

performing a fault tolerance analysis on the storage devices that considers with which one of the plurality of enclosures each storage device is respectively associated; and

selecting a distribution order for the storage devices within a RAID system based on the fault tolerance analysis to provide maximum fault tolerance for the RAID system.

2. (Original) The method of claim 1, wherein the performing a fault tolerance analysis further comprises considering a failure affecting all storage devices in an enclosure.

3. (Original) The method of claim 1, wherein the performing a fault tolerance analysis further comprises considering cable failures to the storage devices.

4. (Original) The method of claim 1, wherein the selecting a distribution order for the storage devices within a RAID system further comprises obtaining a distribution that allows a RAID to be sustained even though an entire enclosure of storage devices fails.

5. (Currently Amended) A RAID controller, comprising:

a memory for storing data; and

a processor, coupled to the memory, the processor being configured for determining an enclosure, from among a plurality of enclosures, that is respectively associated with each of a plurality of storage devices with at least some of the enclosures containing more than one of the storage devices, performing a fault tolerance analysis on the storage devices that considers with which one of the plurality of enclosures each storage device is respectively associated and selecting a distribution order for the storage devices within a RAID system based on the fault tolerance analysis to provide maximum fault tolerance for the RAID system.

6. (Original) The RAID controller of claim 1, wherein the processor is further configured to perform the fault tolerance analysis by considering a failure affecting all storage devices in an enclosure.

7. (Original) The RAID controller of claim 1, wherein the processor is further configured to perform the fault tolerance analysis by considering cable failures to the storage devices.

8. (Original) The RAID controller of claim 1, wherein the processor selects a distribution order that allows a RAID to be sustained even though an entire enclosure of storage device fails.

9. (Currently Amended) A RAID storage system, comprising:

a plurality of storage devices disposed within storage device enclosures; and

a RAID controller, coupled to the plurality of storage devices, the RAID controller determining an enclosure, from among a plurality of enclosures, that is respectively associated with each of a plurality of storage devices with at least some of the enclosures containing more than one of the storage devices, performing a fault tolerance analysis on the storage devices that considers with which one of the plurality of enclosures each storage device is respectively associated and selecting a distribution order for the storage devices within a RAID system based on the fault tolerance analysis to provide maximum fault tolerance for the RAID system.

10. (Original) The RAID storage system of claim 9, wherein the processor is further configured to perform the fault tolerance analysis by considering a failure affecting all storage devices in an enclosure.

11. (Original) The RAID storage system of claim 9, wherein the processor is further configured to perform the fault tolerance analysis by considering cable failures to the storage devices.

12. (Original) The RAID storage system of claim 9, wherein the processor selects a distribution order that allows a RAID to be sustained even though an entire enclosure of storage devices fails.

13. (Original) The RAID storage system of claim 9, further comprising a processor and a memory for storing program instructions for controlling the processor.

14. (Original) The RAID storage system of claim 9, further comprising a host coupled to the RAID controller, the host providing software access to the RAID controller.

15. (Original) The RAID storage system of claim 9, wherein the RAID controller stripes data across an array of storage devices so that the array appears as one logical storage device unit.

16. (Currently Amended) A program storage device readable by a computer, the program storage device tangibly embodying one or more programs of instructions executable by the computer to perform a method for optimizing storage device distribution within a RAID, the method comprising:

determining an enclosure, from among a plurality of enclosures, that is respectively associated with each of a plurality of storage devices with at least some of the enclosures containing more than one of the storage devices;

performing a fault tolerance analysis on the storage devices that considers with which one of the plurality of enclosures each storage device is respectively associated; and

selecting a distribution order for the storage devices within a RAID system based on the fault tolerance analysis to provide maximum fault tolerance for the RAID system.

17. (Original) The program storage device of claim 1, wherein the performing a fault tolerance analysis further comprises considering a failure affecting all storage devices in an enclosure.

18. (Original) The program storage device of claim 1, wherein the performing a fault tolerance analysis further comprises considering cable failures to the storage devices.

19. (Original) The program storage device of claim 1, wherein the selecting a distribution order for the storage devices within a RAID system further comprises obtaining a distribution that allows a RAID to be sustained even thought an entire enclosure of storage devices fails.

20. (Currently Amended) A RAID controller, comprising:

means for storing data; and

means, coupled to the means for storing data, for processing instructions to determine an enclosure, from among a plurality of enclosures, that is respectively associated with each of a plurality of storage devices with at least some of the enclosures containing more than one of the storage devices, to perform a fault tolerance analysis on the storage devices that considers with which one of the plurality of enclosures each storage device is respectively associated and to select a distribution order for the storage devices within a RAID system based on the fault tolerance analysis to provide maximum fault tolerance for the RAID system.

21. (Currently Amended) A RAID storage system, comprising:

means for providing storage space, the means for providing storage space being enclosed within means for grouping the means for providing storage space; and

means, coupled to the means for providing storage space, for determining an enclosure, from among a plurality of enclosures, that is respectively associated with each of a plurality of storage devices with at least some of the enclosures containing more than one of the storage devices, performing a fault tolerance analysis on the storage devices that considers with which one of the plurality of enclosures each storage device is respectively associated and selecting a distribution order for the storage devices within a RAID system based on the fault tolerance analysis to provide maximum fault tolerance for the RAID system.